I CLAIM:

1. An apparatus for determining a color and brightness of an LED in a printed circuit board, the apparatus comprising:

a sensor having a plurality of filters arranged in a matrix;

an output probe connected to the sensor, the output probe providing a color output and a brightness output in a single signal;

an input probe connected to the sensor, the input probe providing power to the sensor; and

a ground probe connected to the sensor.

2. The apparatus of Claim 1 wherein the plurality of filters comprise:

a plurality of clear receptors;

a plurality of red receptors;

a plurality of blue receptors; and

a plurality of green receptors, wherein the plurality of filters are interspersed in the matrix.

3. The apparatus of Claim 1 further comprising:

a microprocessor connected between the plurality of filters and the output probe for calculating the color and the brightness of the LED.

4. The apparatus of Claim 1 wherein the input probe accommodates an operating voltage between approximately 2.7 Vdc and 5.5 Vdc.

5. An apparatus for determining a color and brightness of an LED in a printed circuit board, the apparatus comprising:

a sensor having a plurality of filters having different colors arranged in a matrix;

a microprocessor connected to the sensor, the microprocessor calculating the color and brightness of the LED; and

an output probe connected to the microprocessor, the output probe outputting the color and the brightness through a single signal wire.

6. The apparatus of Claim 5 wherein the plurality of filters comprise: a plurality of clear receptors; a plurality of red receptors; a plurality of blue receptors; and a plurality of green receptors, each receptor interspersed in the matrix.

7. The apparatus of Claim 5 further comprising:

an input probe connected to the sensor, the input probe providing power to the sensor.

8. The apparatus of Claim 5 further comprising:

a ground probe connected between the sensor and a ground.

9. The apparatus of Claim 5 wherein the microprocessor is programmable.

10. A method for testing an output of an LED comprising:

positioning a sensor adjacent an LED having an unknown color and brightness, the sensor having a plurality of color receptors arranged in a matrix;

determining a color and a brightness of the LED with a microprocessor connected to the sensor; and

sending a single output signal from the sensor.

11. The method of Claim 10 further comprising:

sampling the output of the LED for a period of time;

determining a count for each color receptor of the plurality of color receptor; and

determining the color of the LED from a relationship of the count relative to a frequency of the single output signal.

12. The method of Claim 10 further comprising:

converting a wavelength of the color to a frequency;

encoding the frequency with a pulse width; and

measuring a DC average of the pulse width to obtain the brightness.

13. The method of Claim 10 further comprising:

detecting and indicating white light with the sensor.

14. The method of Claim 10 further comprising:

comparing a sample across each color receptor of the plurality of color receptors to determine the color of the LED.

15. The method of Claim 10 further comprising:

sampling the output of the LED for a period of time;

determining a count for each color receptor of the plurality of color receptor;

sequentially comparing the count for each color receptor with the subsequent count of each other color receptor;

determining the color of the LED from a relationship of the count relative to a frequency of the single output signal.

16. A method for testing an output of an LED comprising:

positioning a sensor adjacent an LED having an unknown color and brightness, the sensor having a plurality of color receptors arranged in a matrix;

sampling the output of the LED for a period of time;

determining a count for each color receptor of the plurality of color receptors;

converting a wavelength of the color to a frequency;

determining the color of the LED from a relationship of the count relative to the frequency;

encoding the frequency to a pulse width; and

measuring a DC average of the pulse width to obtain the brightness of the LED; and

sending a single output signal from the sensor.

17. The method of Claim 16 further comprising:

detecting and indicating white light with the sensor.

18. The method of Claim 16 further comprising:

comparing a sample across each color receptor of the plurality of color receptors to determine the color of the LED.